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### On climate matters

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## On *Climate Matters*: Offsetting, Population, & Justice<sup>1</sup>

Elizabeth Cripps

*[Forthcoming in Midwest Studies in Philosophy]*

In *Climate Matters* (2012), John Broome defends a stringent individual duty of justice to reduce one's net carbon footprint to zero. He argues, moreover, that this can be fulfilled without radical lifestyle changes, by offsetting. These are provocative and, in their different ways, likely to be unpopular claims. However, this paper will argue that Broome's conclusions are *less* controversial, in two key ways, than they might be. On offsetting and on the ethics of adding people, Broome's own arguments lead further than he explicitly goes. One of these would put him in extremely problematic territory; both serve to highlight an underlying difficulty with his account of the moral situation of the individual emitter.

For Broome, individual emissions cause harm. If you live a 'normal' life in a rich country, 'your lifetime emissions will wipe out [very roughly] more than six months of healthy human life' (2012: 74). This loss is spread across the millions of victims of climate change, so thinly that the difference any given emitter makes to each victim is imperceptible. However, it adds up across the victims. Moreover, each contribution combines with those of billions of other emitters, resulting in very great suffering by very many people. Since it is wrong to harm others, each of us has a clear-cut duty to reduce our net emissions to zero. This is a duty of justice<sup>2</sup> and takes priority over many other duties. In particular, it takes priority over duties of goodness – duties 'to try and improve the world' (2012: 50) – which, in the climate change case, are duties to put pressure on our

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<sup>1</sup> Thanks to Holly Lawford-Smith and Paul Bou-Habib for detailed comments on this paper. It has also benefited from feedback at a *Climate Matters* workshop, University of Essex, November 2014, especially from John Broome. I am also grateful to Bou-Habib, organiser of the workshop, the editors of *Midwest Studies in Philosophy*, and of course Broome himself for this opportunity to comment on a work as practically important and politically timely as it is philosophically engaging.

<sup>2</sup> Duties 'owed by one person to another particular person, or... people' (Broome 2012: 52).

governments to act (2012: 81). (Governments, unlike individuals, have primarily duties of goodness to tackle the overall problem (2012: 64-68).<sup>3</sup>)

At this stage, the affluent reader might be feeling rather uncomfortable. But it turns out that fulfilling this stringent individual duty is considerably easier than we might fear. According to Broome, individuals can fulfil this duty of justice either by cutting their own emissions *or* by bringing about comparable emissions reductions elsewhere. This might be by carbon removal or preventative offsetting. This latter involves funding projects to reduce others' emissions, perhaps exploiting energy efficiency technology (2012: 87-89).

This option, which allows affluent individuals to 'buy' themselves out of changing their habits, raises objections enough.<sup>4</sup> However, these are not the focus of this paper. Instead, I argue that in defending preventative offsetting, Broome opens the door to other ways of 'cancelling out' one's own emissions: by funding green technology research, by promoting climate change-mitigating action in other ways, or – possibly – by funding adaptation (Section I). Moreover, on his account of un-offset individual emissions as individual injustices, the decision to have a child is also an injustice (Section II). Finally, (Section III) I will question Broome's characterisation of the relationship between individual emitters and the collective harm done through climate change. Given that any perceptible harm to victims results from the combination of many individual emissions, it is not clear that individuals have an exclusive or primary duty of justice to stop or negate their individual emissions, rather than try to bring about a collective-level change, nor – if they do – why such duties should automatically take priority over duties of goodness. In concluding, I will briefly indicate how loosening these assumptions can reinforce the expanded account of offsetting, and take some of the sting out of concerns about the implications for individual procreative decision-making.

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<sup>3</sup> Although they also have obligations of justice, Broome sees these as limited, in the climate change case, by the non-identity problem. His claim is that governments do not harm future individuals through high emissions policies, because without those policies those particular individuals would not come into existence (2012: 61-63). However, this paper will focus on his treatment of individuals and so barely touch on his also significant contribution to the debate on governmental climate duties.

<sup>4</sup> E.g. Hyams and Fawcett 2013; Jamieson 2014; Sagoff 2014; Spiekermann 2013.

## I. OFFSETTING

As we have seen, Broome thinks each of us has an individual duty of justice to achieve zero net carbon footprint, which we can fulfil by offsetting. This can take two forms: removing equivalent carbon from the atmosphere, for example by planting trees, or preventing equivalent emissions elsewhere, for example by funding renewable energy projects in the developing world (2012: 85-89). To reiterate, I will not debate whether it is morally acceptable to offset at all, and particularly whether it is so to use preventative offsetting, rather than make lifestyle changes.

Rather, this section makes a conditional point: *if* preventative offsetting is a legitimate way to fulfil this stringent duty of individual justice, so too – potentially – are three other courses of action. The first is offsetting by funding research into ‘green’ technology. The second is offsetting by promoting action on mitigation. This could involve: a) direct, personal influence on the emissions of individuals or small groups close to you or b) influencing government or international policy. The third is offsetting by funding adaptation.

Briefly, the reasoning on the first two is as follows. If it is acceptable to offset individual emissions by funding the *use* of ‘green’ technology to reduce emissions elsewhere, why not also by making more such technology available, bringing about further cuts? Equally, if it is justifiable to continue your own carbon-laden lifestyle so long you fund other people to emit less, why not if you can *persuade* others to emit less, or bring about policy changes to require everyone to do so?

On offsetting by adaptation, the argument rests on the fact that there is more than one way of protecting persons from climate change: curbing the emissions that cause the physical changes to the atmosphere (mitigation) *or* adapting humans and their environment so that such warming would not undermine central interests.<sup>5</sup> At the collective level, both of these are necessary (e.g. Caney 2009: 86-89). However, for current purposes the focus is on the individual emitter: it is the ultimate harm to victims doing the moral work for Broome, so if that harm is prevented, why isn’t this an acceptable way of offsetting?

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<sup>5</sup> A third possibility, geoengineering, is not discussed here.

Suppose, by way of analogy, I want to throw loud Friday night parties but the noise would distress my neighbour. To avoid injustice, I could refrain altogether. If like Broome we accept the legitimacy of preventative offsetting, I could throw my parties but pay the students living on my neighbour's other side from holding the even louder ones that they would otherwise have had every Saturday night.<sup>6</sup> Finally, I could soundproof my walls.<sup>7</sup> If anything, the third option looks less morally dubious than the second. The analogy to the third, in the emissions case, is adaptation.

There are major objections to this three-fold expansion of offsetting.<sup>8</sup> These are uncertain methods. How can the individual be sure (or sure enough) that sufficient harm will be prevented? Even if it is, will it be prevented to exactly the *same* people as our individual emissions would have harmed? An individual cannot generally justify harming person A by benefiting person B. Indeed, at first sight, the suggestions might look not only problematic, but morally outrageous. The parallel would be with geoengineering, where Stephen Gardiner (2013: 22-24) compares us, as a generation, with 'Wayne'. Wayne continually cheats on his wife, exposing her to risk of STDs. He attempts to justify this by investing a few dollars in a company attempting to cure HIV: a very risky enterprise that may not succeed in producing a cure at all, let alone in one which can save his wife. And if this looks problematically speculative, how much more so does appeal to an individual's chance of influencing either policy or other individuals to cut emissions sufficiently to cancel out her own carbon footprint?

In response, I would reiterate that my claim is strictly conditional: not that these *are* acceptable ways to fulfil strict individual duties of justice, but that if preventative offsetting is a legitimate response to emissions harms, there is no principled reason not to go further. With this in mind, let us begin with the general worry about uncertainty. As Broome acknowledges, preventative

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<sup>6</sup> I am, of course, making certain assumptions: that my neighbour makes no difference between Friday and Saturday nights and that the students put a lower value on being deprived of entertainment, perhaps because they are poorer. (Precisely this latter point brings out part of the moral unease associated with offsetting. See e.g. Caney (2010: 203-12) on emissions trading.)

<sup>7</sup> I could also try to compensate my neighbour. Broome seems prepared to countenance compensation as a means of fulfilling duties of justice (2012: 56-57, 78-81). However this, in moral terms, looks second best, just as it does at the collective level, though it will undoubtedly be necessary as part of a fair collective response (Caney 2009: 86-89).

<sup>8</sup> A preliminary difficulty is that of calculating likely reductions, but this is not unique to my suggestions (Broome 2012: 85, 89).

offsetting may also be ineffective. He advocates overestimating what is required, to be on the safe side (2012: 87-9). Indeed, even carbon removal offsetting is not certain to bring about exactly the necessary reduction in emissions. Rather than a clear contrast between options – a straightforward cancelling out of one's emissions, on the one hand, and uncertainty about whether one had done so, on the other – we are faced with a continuum along which there are different levels of uncertainty attached to different offsetting options. The only certainty is not emitting in the first place. Thus, rather than ruling out some means of offsetting altogether, an appropriate response might be to overestimate more and more what is needed, as one moves further along the spectrum.<sup>9</sup>

There are, moreover, a number of ways in which offsetting by green technology research and by promotion can be made more or less uncertain, while offsetting by adaptation, like preventative offsetting, could be a matter of funding the use of established technology. With green technology research, the individual could spread her investment, provided it is significant enough, over different projects.

On offsetting by promotion, the objection would be that most individuals are highly unlikely to make any real difference to policy, try as they might by subscribing to Greenpeace or Friends of the Earth, signing e-petitions, marching on international summits, and so on. However, some individuals *do* have very great influence, with a potential impact much more than equivalent to a lifetime's individual emissions. (Whether they could achieve this in practice without cutting their own emissions is, of course, another question: there remains the danger that they will be perceived to be hypocritical, undermining their efforts (Cripps 2013: 152-3).) True, many of those have this influence because they hold positions of power in current state or interstate institutions, and as such should be considered separately from private individuals. But not all those with potentially enormous influence are currently involved in government. Some have become role models for other reasons and could change behaviour on such a mass scale as indirectly to change policy. Others lead non-governmental

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<sup>9</sup> This could be very costly, giving no incentive for individuals to do it. However, it is worth establishing in theory whether other means of offsetting could satisfy individual duties of justice, because carbon removal or preventative offsetting could become more expensive and individual emission cuts harder.

organisations such as corporations or religious organisations. It is not so straightforward to draw a neat line between ‘powerless’ individuals, on the one hand, and all-powerful governments, on the other.

Recall, too, that there are two levels of offsetting by promotion. Anyone with influence on relatively small groups of others – teachers, local community leaders, journalists – might be able to ‘cancel out’ their own emissions by provoking emissions cuts by those others, or at local policy level. (Again, of course, subject to the perceived hypocrisy objection.)

Let us turn, then, to the second worry: even if the same *amount* of harm is prevented, it may not be harm to the same people. Depriving one person of six months of life cannot be justified by prolonging another’s life by six months. (On the common sense morality upheld by Broome, it cannot be justified by giving six months to ten others.) But why should this apply more to offsetting by technology research or promotion than to preventative offsetting? The idea behind preventative offsetting is that one can spare the victims and so fulfil one’s duty of justice by cancelling out one’s own emissions through reductions elsewhere. These two are simply alternative ways of doing that.

If the concern is with those who could be harmed as a result of the time lag between individual emissions and any offsetting reduction, this is a serious worry, but one which is not unique to my proposals. The same applies to many kinds of preventative offsetting (some projects will have a very long gestation period) and may not – if one’s influence on others is rapid enough – apply to some kinds of offsetting by promotion. If I could get away with it, I could give a rousing talk one afternoon which prompted twenty regular commuters to ditch their cars for bikes, then fly off to the South of France on holiday, safe in the knowledge that my day had reduced emissions by more than it had increased it. (Again, remember that I am not defending this, all-things-considered, but simply pointing out that it is another way of ensuring that, for any emissions I cause, I also cause an equivalent or greater reduction elsewhere.)

On offsetting by adaptation, however, there are some more specific difficulties. The idea behind the other options is that so long so you don’t cause extra overall emissions in the atmosphere, *no-one* will be harmed by your actions. Here, the suggestion is, instead, that the individual could somehow

intervene to shield victims from the physical changes associated with any increased emissions. But she can hardly be sure that those people whom her adaptation aid protects will be the same ones whom her emissions will have harmed.

I have some responses to this worry, but they may remain inadequate until supplemented by Section III. Firstly, preventative offsetting is not entirely immune to such difficulties. Even allowing for overestimating in response to uncertainty about whether emissions *will* be reduced enough elsewhere, some harm to some victims could still slip through the net. This is because of a combination of potential time lags and the impossibility of being certain one has overestimated sufficiently. In other words, accepting even preventative offsetting means not assigning absolute priority to ensuring that *no* victims are left harmed a result of your actions.<sup>10</sup>

Indeed, taking concerns about time lags to their natural conclusions, adaptation might be the *closest* some polluters can get to negating their own emissions. Consider those who are now elderly and have been emitting all their life. What would Broome's justice require of them? This is not clear, but it is reasonable to assume that he would think they should offset all past emissions. However, some victims already live with the effects of climate change. The early, un-offset emissions of those still living could have contributed to this, and it is a suffering which cannot now be prevented by mitigation but might be eased by adaptation aid. (Taking this further, compensation aid could be required, where central interests have already been undermined.)

Finally, what each individual causes are *imperceptible* harms to each of the many victims of climate change, rather than perceptible losses caused by each emitter to any given individuals. This, I suggest, could justify responding by spreading adaptation aid also across as many as possible. But this relies to arguments that will not be filled out until Section III.

This completes, for now, my discussion of offsetting. It might seem that my conditional claim – if preventative offsetting is an acceptable way to fulfil individual duties of justice, so too are these other speculative ways of stepping

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<sup>10</sup> Broome does not rule out a 'surrogate compensation' approach, compensating large numbers of people as a proxy for those actually harmed (2012: 80-81). This would be vulnerable to the same objection.



between one's emissions and harm – is ultimately a case *against* preventative offsetting; almost a *reductio ad absurdum*. But my aim is at once less destructive and more critical than that. Section III will identify some limitations of Broome's account of the connection between individual duty-bearers and the harm done by climate change. These accepted, I will suggest that at least some of my suggestions could be as appropriate a response to carbon emissions as – and arguably *more* appropriate than – cutting one's own carbon footprint, even by conventional means. For now, however, I turn to a second way in which what Broome explicitly says about individual climate duties stops short of where his own arguments should take him.

## II. THE INJUSTICE OF ADDING PEOPLE

Broome is adamant that parents should not expect others to pick up the tab for their decision to have children (2012: 71-72). My contention, taking him into still more controversial territory,<sup>11</sup> is that he is committed to condemning voluntary, foreseeable procreation as an injustice. In having a child, parents create not only a new person, with her own emissions, but the prospect of a whole line of descendants, all emitting.

A number of objections are likely. One is that parents do not harm so long as they have fewer than replacement rate children. However, Broome requires zero carbon footprint, not merely keeping below some 'fair share' emissions threshold (2012: 79). Moreover, even if parents have only one or two children, the stage of life at which they have them affects total emissions: the more the overlap between generations, the greater the impact. Thus, on Broome's own account, there are reasons to reject this objection. Even accepting it, however, the argument would hold for more than replacement rate children. (This is a less counterintuitive conclusion, although one still likely to raise hackles.)

A second objection is that the cost of not having children is too great to require anyone to refrain. A parent's relationship with her child can make a central contribution to a full human life: one not substitutable by other goods

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<sup>11</sup> Controversial, but not altogether uncharted, e.g. Young (2001).

(e.g. Brighouse and Swift 2006; Conly 2005). Thus, to ask someone to give up the opportunity could be to demand a huge sacrifice.<sup>12</sup>

However, on the strict common sense morality on which Broome draws, we must not (as individuals) do serious harm even if the cost to us of avoiding it is high. He specifies that '[j]ustice does not prohibit you from doing harms you cannot help' (2012: 59) but most of us, at least in the affluent world, can 'help' having children, albeit at an emotional cost. I would not generally be justified in cutting off your arm even if that were the only way to save my own.<sup>13</sup>

If our intuitions pull against such a hard line in cases like climate change, where the harm results from the combination of many actions none of which do perceptible harm on their own, then perhaps we have reason to doubt whether such contributions really do count as harms, or injustices, in the same way as 'standard' individual violations of that widely-shared prohibition on doing serious harm to other persons, the no-harm principle. This will be taken up in Section III.

In any case, it is more plausible that we have a central interest in being able to have and experience a relationship with *a* child, than that we need to be able to have unlimited children in order to flourish. (Conly 2005: 107; Cripps 2016a: 6-8). Thus, on a modified view, it would still be an injustice to have more than one or two children.

A third objection to the claim that Broome must consider procreation an injustice is that overall emissions will not increase if the child's net emissions – and those of any future descendants – are zero. Thus, a parent can avoid injustice by guaranteeing this. But this is problematic. Children will grow up and make their own decisions. Parents can educate and encourage them, but they can't guarantee that they will not emit or procreate and they can't offset for unlimited

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<sup>12</sup> Whether this requires biological parenting is another question, but it cannot be taken for granted that it does *not*.

<sup>13</sup> A related objection – that interference with procreation would violate a human right, grounded in this interest in procreating – is misplaced. The discussion here is entirely at the individual level. This paper neither makes, nor accuses Broome of making, a case for policy to enforce restraint from procreation. Indeed, the argument is perfectly compatible with a collective or state duty to bring about a better situation in which individuals can procreate without committing injustice.

emissions. Even if they could do so for this child, they could not do so for their potential descendants.<sup>14</sup>

A version of this objection appeals to the urgency of the collective challenge. Given that limiting risks across central areas of concern will require zero overall emissions by the end of the century (IPCC 2014: 18), effective collective action would have to ensure that future generations have *no* carbon emissions. If parents can take this for granted, they needn't consider their future children as future emitters. But, of course, this is precisely what they cannot do. Potential parents, like all of us, face the sad probability that the necessary collective action won't be achieved. In that case, it is reasonable to assume that the already great harm would be worsened by greater ongoing emissions. (The alternative is an implausibly all-or-nothing view on which, once this opportunity to mitigate sufficiently has been missed, the situation will be so dire anyway that it no longer matters what our combined emissions are: the kind of reasoning that says one might as well light a cigarette once the house is on fire.) Then, on Broome's account, individual carbon footprints would still count as harms.

Perhaps the point is not that the parent can't guarantee that her child will not emit, or have children in her turn, but that it will be that child's *choice* to do so, and so her (not her parents') responsibility. After all, we do not generally hold criminals' parents responsible for their crimes simply because they produced them. However, children may not actually have that option, given continued failure to act collectively on climate change. Zero net emissions is a realistic option for Broome's current affluent readers only because of the availability and affordability of offsets.

Whether or not these future adults could avoid emitting – and I am not suggesting that they will not be responsible for any of their emissions choices – they can, on current patterns, be predicted to have a significant carbon footprint. The analogy with the criminal fails: most children will not grow up to be thieves or murderers, but parents in this unique situation create the probability of

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<sup>14</sup> A rival suggestion would be 'offsetting' by funding others *not* to have children. This might seem a natural extension of the tradable procreation rights sometimes mooted (De La Croix and Gosseries 2009). However, it seems doubly problematic. On a one-for-one basis it would be ineffective: any such cuts in population growth are likely to be in the developing world, where per capita emissions are dramatically lower. Moreover, whatever moral concerns arise regarding emissions offsetting in general multiply a hundredfold in this peculiarly morally charged context.

emissions by creating the agent who will probably go on to cause them (including by having children in their turn). They knowingly run a high risk of increasing overall emissions. And for Broome, significant risks of harms count as injustices (2012: 79).

However, one important caveat must be acknowledged, regarding parents' responsibility for emitting descendants. In general, as strings of consequences grow, it becomes less plausible to assign moral responsibility for all those consequences to those whose actions started the chain. This is partly because of other agents' actions and natural events in between, partly because we standardly only hold persons responsible for consequences reasonably foreseeable when they acted. While it is reasonable for a parent to expect that her children will a) emit and b) have children who will emit, it may not be so reasonable to assume this of her more distant descendants.

On a), our ability to predict technological progress, and/or collective-level policy, is too limited to extrapolate current trends beyond a generation or two. On b), the chain of procreation relies on certain decisions (and abilities) at every generation. There is also the chance, at each stage, of some destructive external event. Generally speaking, it seems reasonable to draw the line for any responsibility for future emissions (at the least) at the point at which it becomes less likely that someone will have further emitting descendants than that they will not. Of course, it will be almost impossible to pinpoint when this is. It will also vary significantly according to how many children someone has. The argument of this section would hold, however, for at least a few generations.

Another objection to my expansion of Broome's view appeals to parents' influence over their children. The suggestion is that those potential parents who are likely to take seriously a moral injunction not to procreate are also those who would be likely to bring up their children to be environmentally aware. The claim then, would be that these are precisely the kind of people who *ought* to be peopling the next generation.

This can be rejected. Recall that Broome is concerned narrowly with the individual injustice of having a positive net carbon footprint. The argument would have to be that 'right-minded' parents could produce children so personally conscientious and so effective at motivating others that it would be

better to have them than not, in overall emissions terms. But parental influence, while important, cannot do everything. Moreover, many who currently consider themselves 'green' have failed to achieve a zero carbon footprint. It would hardly, then, be realistic, to *expect* one's potential child to go so far beyond this as to have, in effect, a negative footprint. And while we undoubtedly need exceptional leaders to turn the tide of collective lethargy on climate change, no parent could reasonably gamble on her own child being one.

A final objection appeals to Broome's rejection of the intuition of neutrality: the view that we can be morally neutral about the number of flourishing people brought into the world whilst considering it morally important that whoever does exist can flourish (2012: 170-88).<sup>15</sup> This could imply a duty of goodness to procreate, so long as the presence of an extra person did not reduce overall happiness more than her own would add to it. At the individual level, this can quickly be rejected. On Broome's common sense morality, duties of justice have priority for the private individual.

However, important related questions are raised. If there were a duty to refrain from having any children, and if all complied with this duty (which is, of course, improbable), the consequences would be devastating: even more so, at least from an anthropocentric viewpoint, than those of everyone failing to comply with other climate duties. Again, on the Broomian model, this doesn't change the individual duty. However, is hard not to see this itself as reason to revisit either the absolute priority of justice over goodness at the individual level, or the focus on climate change as a matter of direct *individual* responsibility for harm.

### III. CLIMATE CHANGE AND INDIVIDUAL HARM

So far, two unacknowledged implications of Broome's argument have been outlined. These might be left constructive amendments to his project, at least if the procreative duty of justice could be consistently interpreted as one to stop at

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<sup>15</sup> I will not engage with Broome's argument for this rejection. Nor is it within the scope of this paper to address what else he says about population in the context of governmental duties: his favourable mention of tying state emissions quotas to fixed population levels (2012: 71. See Cripps 2016b on the latter.)

one or two children, rather than not have any at all. But I will not leave it at that, because there remains an underlying concern about Broome's characterisation of individual's moral relationship to the harm caused through climate change. This is a challenge which, in their different ways, both the previous sections press on us.

For clarity, let us separate his view into four points:

1. That, *as affluent individuals*, we are each causally responsible for harms through our own emissions, amounting to six months' loss of human life.
2. That this is the kind of harm that violates the individual no-harm principle and counts as an injustice.
3. That, accordingly, each of us has a duty of justice to stop or negate those individual emissions
4. That this duty takes priority over any duties of goodness we have, such as our duty to promote government action on climate change (2012: 54-57, 64-68, 74-81).

I will begin with some independent concerns about point (4), then address the first three, before returning briefly to (4).

Broome's view is that governments can legitimately prioritise goodness over justice (so long as they compensate where possible), but individuals can rarely do so. In the climate change context, this is at least partly because governments, unlike individuals, can make a very great difference to what happens at the collective level (2012: 64-69). I have already suggested that, as regards *some* individuals, this depiction of powerlessness may be a mistake. I now want to make a more general point: in focusing only on what governments can do and on what individuals can do *as individuals* (cutting their own emissions as a matter of justice or lobbying their government as a matter of goodness), there is a danger of neglecting a third possibility. This is what can, and in the climate change case can only, be achieved through collective action at a level at which there is as yet no effective collective agency.

This is important in at least two ways. Firstly, even individual *governments* may be powerless without cooperation with others (Gardiner 2011: 95-96). This

might involve a global agreement (for example, the cap and trade scheme suggested by Broome (2012: 68-72)) and/or establishing a global institution. Secondly, potential groupings of individuals, beyond our current groupings into states, could make a very great difference indeed. This might be by collectively demanding global institutional change or through global citizens' activism networks, changing emissions patterns (Jamieson 2011: 36).

Thus, the possibility arises of a shared duty requiring everyone (or all affluent persons) to cooperate to achieve global climate action. Given the extraordinary moral salience of that end, a case might be made for prioritising individual duties to bring about such cooperation over any individual duty to neutralise individual emissions in isolation, so long as the ultimate collective scheme also compensated any victims of injustice where necessary and possible.<sup>16</sup>

Now let us turn to points (1) and (2). My objection is not to Broome's calculations, based on World Health Organisation estimates of the toll of climate change. It is to his doing them at all: to the reduction of an aggregate harm to the individual level. We can get at this concern in two ways: resisting point (1) by questioning his 'divvying up' of total impact to conclude that each contributor has effectively *caused* climate change amounting to a six months' loss of human life; or rejecting (2) by resisting the summing of imperceptible harms across different victims to make that six months' loss a violation of the individual no-harm principle.

On the challenge to (1), which has been made elsewhere,<sup>17</sup> I will simply flag up the distinction between a number of individuals performing actions harmful in themselves which add up to greater harm, and a number of individuals performing actions which make no difference at all in isolation but, *in combination*, bring about serious harm. To assess this latter as individually-caused harm, the argument must appeal to the chance that any given individual contribution will trigger some threshold at which harm *is* increased (Hiller 2011;

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<sup>16</sup> As clarified elsewhere (Cripps 2013: 115-39), I am not suggesting that individuals *shouldn't* cut their own emissions. The point here is that reducing them to zero is not necessarily the only or the best way to fulfil duties relating to such collective harm. In practice, of course, the two ends might not conflict. Cutting individual emissions might a way to promote wider action. If it were not, affluent individuals could use offsetting to do both. However, if either offsetting or restraint were costlier, it could pull against promoting collective action.

<sup>17</sup> Jamieson 2014. See also Cripps 2013: 119-24; Maltais 2013; Nolt 2011.

Kagan 2011): of being, as it were, that additional straw which breaks the camel's back.

Instead, I will begin my current critique at (2). For the sake of argument, I will accept Broome's claim that the individual makes some difference to what happens at the collective level, concede his six-months figure as a reasonable estimate, and focus on whether this violates the moral injunction against doing serious harm to any other person. If not, this could still be an 'injustice'. However, it would be one for a different reason than that it violates the individual no-harm principle, and so need not automatically give rise to the same duties.

The issue is this: there is a significant difference between depriving one person of six months of life, and causing the loss of six months of healthy human life spread across so many people that each one loses only the most infinitesimal fraction of a second, which is how Broome characterises the situation (2012: 75-6). Broome defends his approach as follows:

[A] great many minuscule, imperceptible harms add up to a serious harm. If you doubt that, think of the recipients of harm. Each one receives harm from the emissions of billions of people. The amount each receives from each emitter is minuscule and imperceptible. Yet some recipients are already suffering serious harm in total. Some are even being killed by global warming. This shows that adding up vast numbers of miniscule amounts can amount to a serious harm. Similarly, although each emitter harms each recipient only imperceptibly, the amounts add up. (2012: 75-76.)

However, this glosses together two ways of summing harms: summing what all the contributors, including me, do to each victim, and summing what I do to each of those affected. The fact that both yield a significant total harm does not show what is needed to invoke the individual no-harm principle: that *I* cause significant harm to any one person. So long as we think only *qua* private individual, there remains the objection that what *I* do doesn't cause anybody to suffer anything. Thus it is necessary either to accept that an imperceptible harm can violate the no-harm principle,<sup>18</sup> or to consider all contributions to serious

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<sup>18</sup> See Parfit's 'Single Torturer' (1984: 81-2).



harm to be individual injustices, regardless of whether they are harmful in themselves. (This amounts, in effect, to picking up where denying (1) would have left us.) In either case, I suggest, the step to (3), above, can be questioned.

Consider the possibility that contributions to serious harm count as individual injustices.<sup>19</sup> But which contributions, and under what circumstances? It would surely be too restrictive for a code of private morality to rule out all acts which *could* combine to cause great harms if others also did them. A relevant question must be whether others will or can be expected to do so. But if this sort of ‘injustice’ arises only because of how others act and how the consequences of these actions combine with those of the private individual, must that individual’s exclusive, or even primary, correlative duty be to refrain from performing her own action? Instead, faced with such ‘new harms’, collective action might be needed to fulfil duties of justice (Cripps 2013: 68-77; Lichtenberg 2010). This is in no way to undermine the moral seriousness of the case: each individual must respond appropriately to the situation in which she and others are bringing about a very great harm between them. However, she might do this by promoting collective action to prevent that harm.

Even if an imperceptible harm does violate the no-harm principle, grounding a *prima facie* duty to refrain, this is so far from the classic case of serious, foreseeable individual harm – when individual A kills individual B – as arguably to require revisiting the all-trumping status of the principle. Indeed, given how indirect the link is between the individual actions and *any* significant harm, it is again unclear why the duty to refrain should be the only or even the primary duty of justice, if other courses of action could contribute more effectively to preventing or redressing that significant, combined harm. It is also unclear, reinforcing the case against (4) above, why any duty to refrain should take priority over any and all duties of goodness. Again, this is in no way to deny that the situation imposes *some* strong, negatively-grounded moral duty: this is no easy way out for the individual.

This completes the case against Broome’s points (1) to (3). Note also that the points just raised can reinforce my tentative conclusions on (4), by taking the

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<sup>19</sup> This links to an extensive literature. E.g. Cripps 2013: 119-39; Otsuka 1991; Parfit 1984: 67-86; Spiekermann 2014.

sting from one probable worry about that view. It is deep-rooted in common sense morality that individuals cannot justify harm to other individuals by doing (even much greater) good in another way. Were my suggestion the general one that individuals might sometimes legitimately prioritise an obligation to promote almost untold collective good over fulfilling duties not to harm, it would have dangerous implications. (What if my duty to bring about collective action on climate change were fulfillable by assassinating oil industry leaders? Would I seriously want to defend this?) However, I hope the distinction remains clear between contributions to combined harms, which are not perceptibly harmful in isolation, and actions which *are* individually harmful. The points made against (4) are limited to instances of the former.

In the light of what has just been said, I can better indicate why some measures proposed in Section I are morally viable alternatives to conventional offsetting, and suggest that some, at least, might be more appropriate even than individual emissions cuts.

Recall Gardiner's Wayne, who exposes his wife to the risk of STDs and tries to justify himself by investing in uncertain medical research. The analogy fits us depressingly well as a generation or global elite, as we flail around for ever more speculative measures to avoid cutting luxury emissions. But the *individual* is not Wayne. She and others are causing great harm in combination; she is not directly causing it to any one victim. This situation makes a strong, negative moral claim on her, but one that could be as appropriately or effectively met by funding adaptation or green technology research, both of which counter some of that combined harm, as by preventative offsetting, which does the same. Moreover, some individual investments in adaptation or green technology research could prevent *perceptible* harm to individual victims (at least if the technology investment involves a big enough contribution, spread widely enough). The individual cannot do this simply by buying carbon removal offsets, or even refraining from individual emissions.

In promoting collective action to end the overall harm, the individual could be acting still more appropriately. She would be attempting to broker a collective

solution to an injustice which is also, ultimately, collective: to stop *us*, as a generation, from being Wayne.

We might also pick up where Section II left us: with implications highly counterintuitive and, if collectivised, so problematic as to give us *prima facie* reason to question the view of individual emissions and harm on which they rested. Now that view has indeed been challenged, there is no need to espouse a stringent individual duty to have *no* children: the focus can legitimately be on promoting the building of a world in which the next generation can thrive without emissions.

However, the insight remains that procreative decisions are an important contributor to the overall catastrophe of climate change. The challenge, then, is twofold: to evaluate how the population factor should be incorporated into any collective response (a challenge exacerbated if we accept Broome's rejection of the intuition of neutrality); and to determine whether any individual duty to refrain from procreating above a certain number of children can be defended either as part of such a collective endeavour or as a necessary part of promoting it. In providing a way around the most extreme implications of Broome's view of individual justice, I am in no way undermining the paramount importance of this task.

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